Transportation Electrification Draft 2023-2025 Roadmap

APRIL 22, 2022

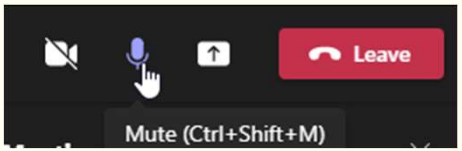
Meeting Logistics

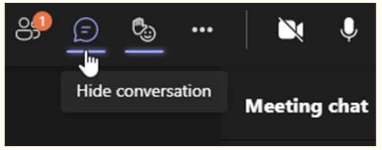
Teams Meeting

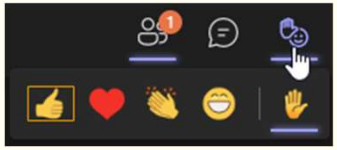
- Please click the meeting link sent to your email or
  Click here to join the meeting
- Please use **Microsoft Edge** or **Google Chrome** with Teams as it will give you the best experience

During the presentation:

- All attendees will be muted; to unmute yourself via computer, click on the microphone that appears on the screen when you move your mouse
- To unmute yourself over the phone, **press *6**
- If you call in using your phone in addition to joining via the online link, please make sure to **mute your computer audio**
- Use the chat feature to share your comments and questions.
- Raise your hand icon to let us know you have a question







Operating Agreements

Establishing norms with our communities is foundational to building trust.

To create a **safe space**, we establish **common agreements** such as **respect** and **inclusivity**.

Practice curiosity and **seek to understand different perspectives**.

- **Stay Engaged**
- **Experience Discomfort**
- **Speak your Truth (knowing it's only part of the truth)**
- **Expect and Accept Non-closure**
- **Share the Airtime. Step up, Step back.**

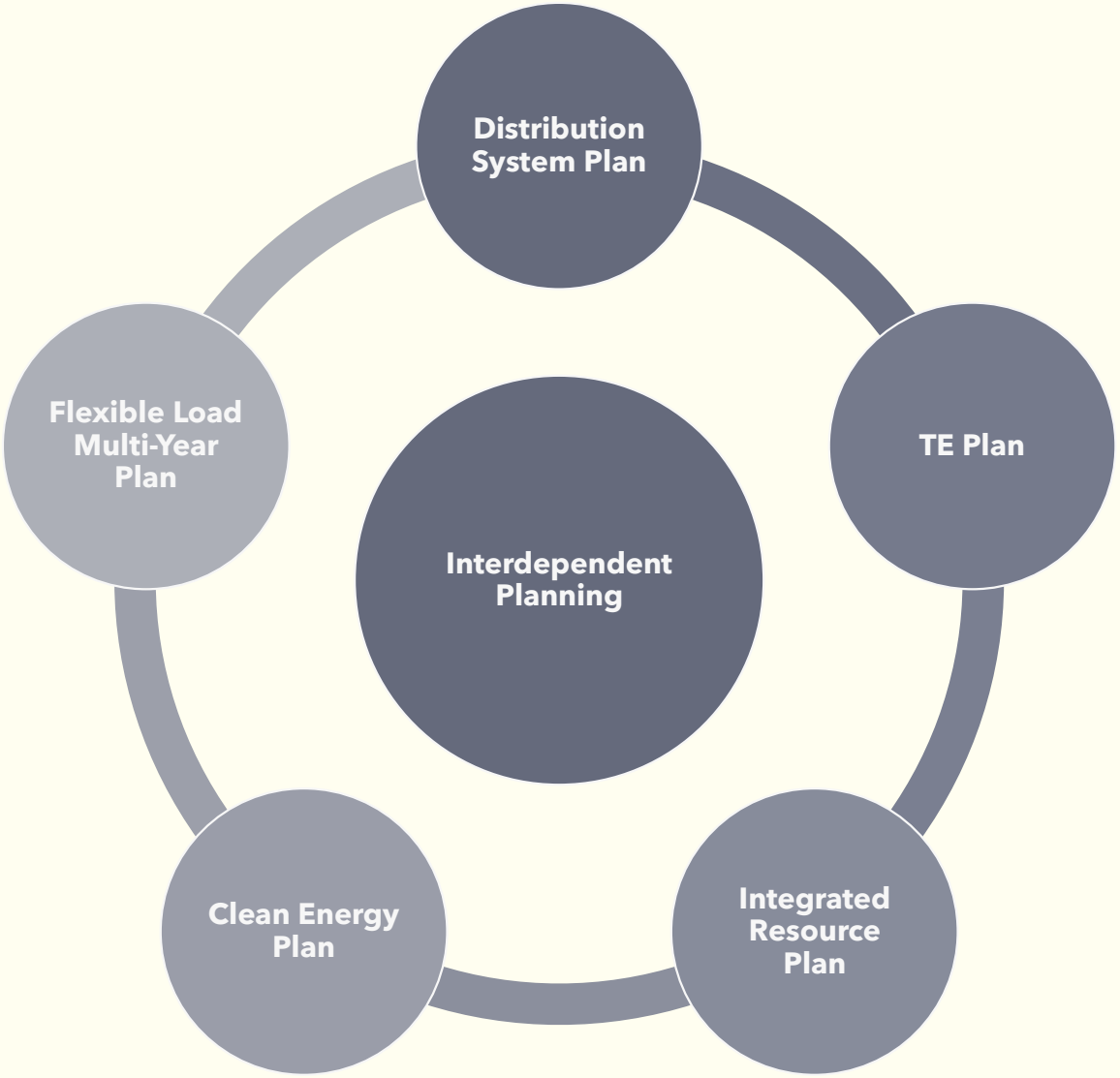
The courageous conversations framework
By Glenn Singleton and Curtis Linton

Agenda

1. Introductions and meeting objectives – 10 mins
2. 2023-2025 TE Roadmap – 45 mins
3. Break – 5 min
4. HB 2165 TE Charge, Potential Application of Funds– 45 mins
5. Break – 5 min
6. Municipal Charging – 60 mins
7. Closing and Next Steps – 10 mins

Introductions…

1. Introductions
2. Background - this is result of PGE's discussions with stakeholders and our vision for TE
3. Objectives
    1. Today's discussion is about our first draft of PGE's future TE portfolio - we're excited to get your feedback today and over the coming months.
    2. Feedback from stakeholders on 2022 TE charge and Municipal Charging
4. No decisions today, only input and feedback


Distribution System Plan
TE Plan
Integrated Resource Plan
Clean Energy Plan
Flexible Load Multi-Year Plan
Interdependent Planning

Draft TE Roadmap

2023-2025

Vision: Ecosystem Outcomes

1. People have the information they need to transition to EVs
2. Charging is equitable, affordable, reliable and accessible
3. Businesses & cities achieve emissions goals by electrifying fleets

4. Electric vehicles are efficiently integrated into the grid
5. Electric mobility is available to all

Customers need TE to be:

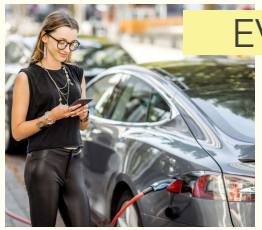
- Easy and accessible
- Reliable
- Affordable for all

Customer Segments

PASSENGER EV

RESIDENTIAL

EV Driver



EV Considerer

Non-Driver

NON-RESIDENTIAL

Multifamily Property

Business

Public

FLEET

Private

Transit/School Bus

Municipal

PGE

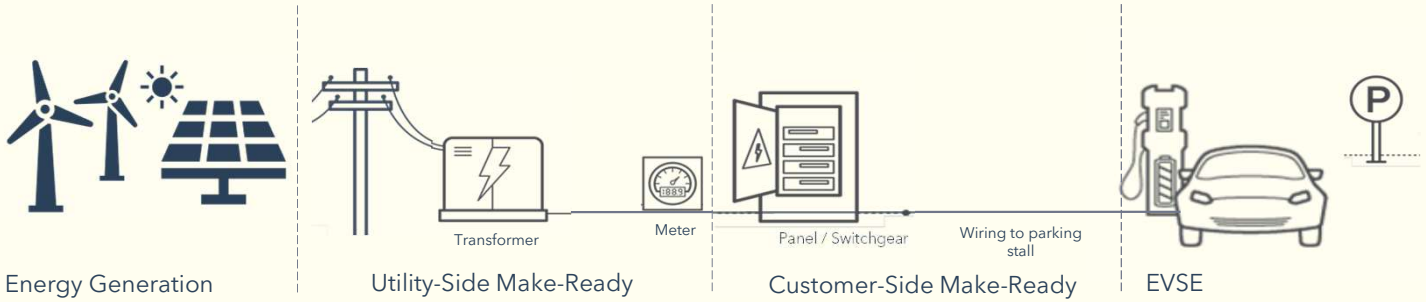
PGE's Evolving TE Portfolio

Customer Segment	Approach	Today's Activity	Future Activity (envisioned)
Residential	Rates	Time-of-Day / Time-of-Use Rates Public Charging Subscription	Residential EV Rate
	Infrastructure	PGE Public Charging (Electric Avenues, ROW, OR Elec Byways)	Municipal Charging Partnership Program
	Programs	Residential Smart Charging Rebate	Panel Upgrade Rebates Residential TCO Tool
Non-Residential (Multifamily)	Rates	------	Multifamily Charging Solutions
	Infrastructure	------	TE Line Extension Allowance Multifamily Charging Solutions
	Programs	Business EV Charging Rebates	EV-Ready Funding for Affordable Housing
Non-Residential (Commercial)	Rates	No-Demand Charge Rate	Commercial EV Rate
	Infrastructure	------	TE Line Extension Allowance Business Make-Ready Program
	Programs	Business EV Charging Rebates	Customer Technology Services Clean Fuels Optimization
Fleet	Rates	No-Demand Charge Rate	Commercial EV Rate
	Infrastructure	Fleet Partner Heavy-Duty Charging Demo Sites	TE Line Extension Allowance
	Programs	Business EV Charging Rebates Fleet TCO Tool Drive Change Fund / Electric School Bus Fund	Fleet DCFC Rebates eFleet Charging Services Customer Technology Services Clean Fuels Optimization

Cross-Segment Activities:

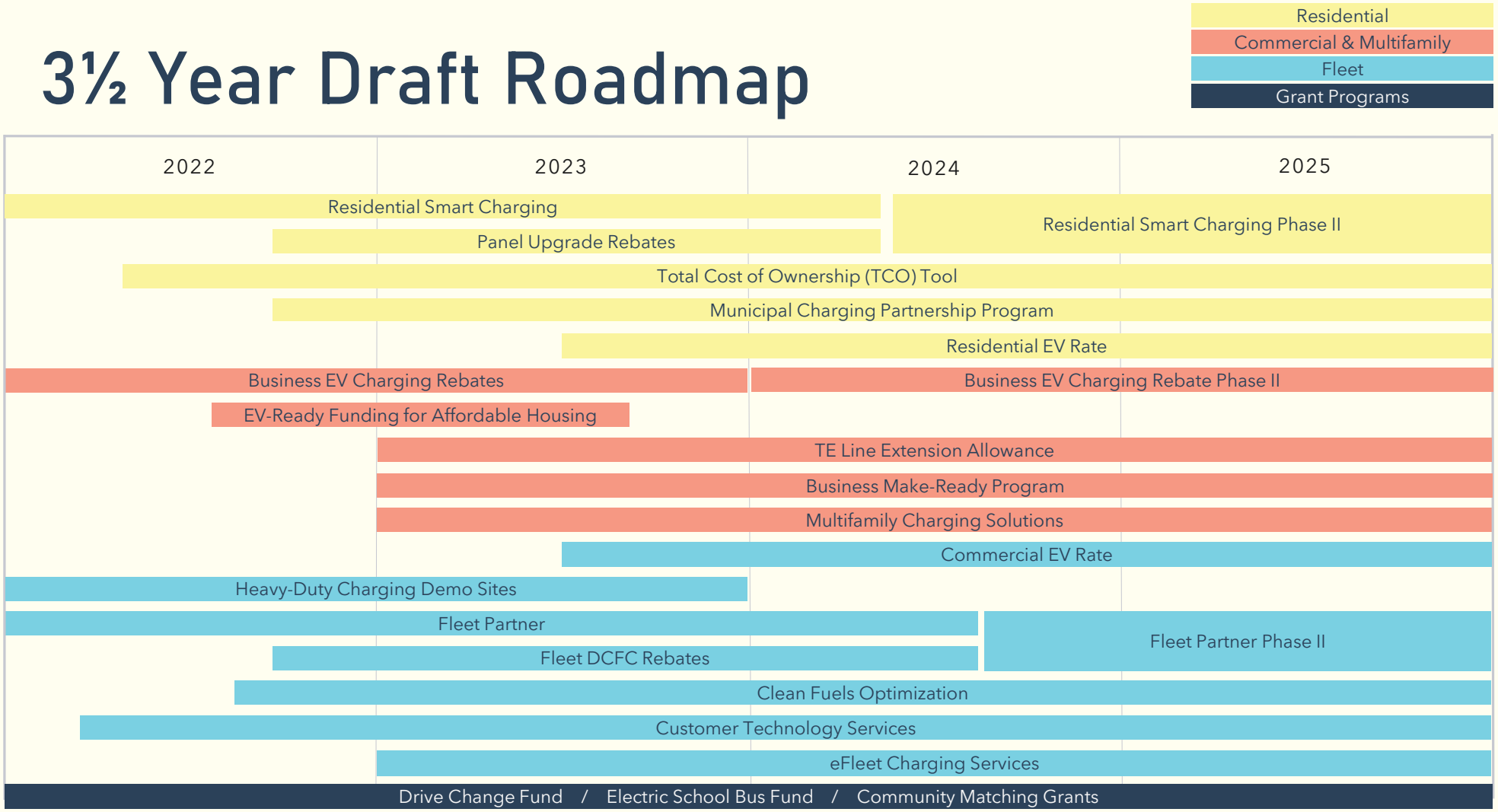
- Education and Outreach
- Statewide Campaigns
- Emerging Tech R&D (V2G, etc.)
- Community Matching Grants
- Micromobility Strategy
- Workforce Development

Integrated Program Design



Product	Energy	Customer-Side Make-Ready	EVSE	Load Mgmt
TE Line Extension Allowance	Customer choice	Customer owned Rebates may be available	Customer owned Rebates available	TOU rate
Business EV Charging Rebates	Cost of service rate	Customer owned Rebates may be available	Customer owned Rebates available	TOU rate
Fleet Partner Business Make-Ready Program	Cost of service rate	PGE owned	Customer owned Rebates available	TOU rate
Multifamily Charging Solutions Municipal Charging Collaborations	100% renewable or PGE grid mix	PGE owned	PGE owned	Sch 50 on-peak surchg

3½ Year Draft Roadmap



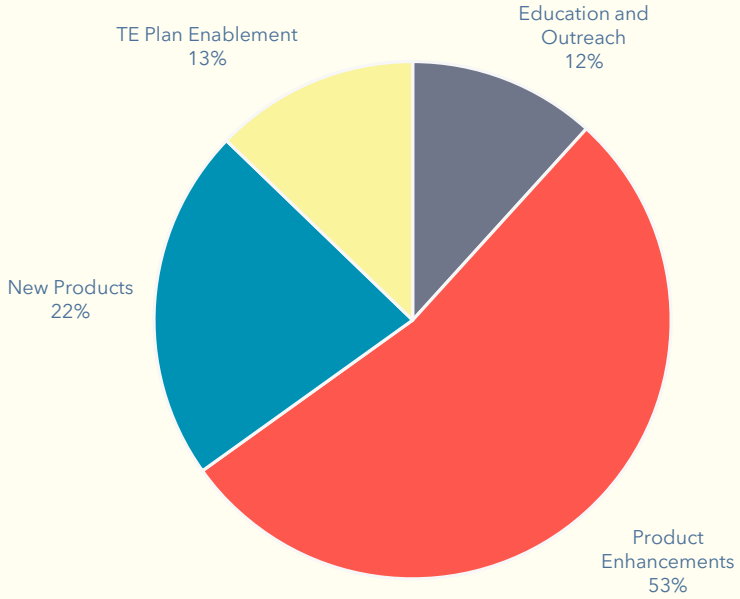
A Portfolio of Funding Sources

	Line Extensions	Utility-Owned Make Ready	Utility-Owned EVSE	Rebates	Asset Maintenance	TOU and Flex Load Offerings	Admin, Marketing and Evaluation	Education & Outreach	Workforce Dev	Community Grants	R&D Projects
CapEx	X	X	X								
OpEx				X	X	X	X	X			
TE Charge				X	X	X	X	X	X		
Clean Fuels Program								X	X	X	X
External Grants (IIJA, etc.)											

2022 TE Charge

Potential Application of 2022 TE Charge

Category	Examples	Amount
Product Enhancements	• Business EV Charging make-ready rebates • Fleet Partner DCFC rebates • **Residential Smart Charging panel rebates** • Trade ally network	$2,775,000
New Products	• **Municipal Charging Partnerships admin** • **EV-ready funding for affordable housing**	$1,150,000
Education and Outreach	• Ride and Drives • Residential TCO tool • **Oregoin' Electric campaign**	$610,000
TE Plan Enablement	• Retail charging and **micromobility** strategy • EV rate development • Project management	$665,000
TOTAL		$5,200,000



Bold = designed to meet needs of underserved communities
Total portion of funds forecasted to meet the needs of underserved communities: 54%+

Product Enhancements

(potential application of TE Charge, break out of ~$2.7M from top category on previous slide)

	Residential Smart Charging	Business EV Charging Rebates	Fleet Partner
Challenge	To install L2 chargers and participate in Smart Charging, many customers require a panel upgrade, which can cost $1,000-$5,000	Current $1,000 rebate for L2 EVSE is not meaningful enough to move the market, and customer adoption has been slow as a result	No current cost offset for DCFCs - $50k-$200k – which represent 15% of forecasted Fleet Partner ports
Solution	Offer rebates of $1,000 ($5,000 for LMI) toward the price of a panel upgrade	Offer additional rebates for make-ready infrastructure for L2 EVSE, covering 80% of costs up to $8,000 per port / $48,000 per site	Offer rebates to Fleet Partner customers to cover ~50% of DCFC cost ($300/kW)
Other Enhancements	- Add trade ally network of installers - Expand evPulse segment of program - Change LMI threshold from 80% of AMI to 120% of SMI	- Add trade ally network of installers - Remove income qualification for higher ($2,300) multifamily rebate	- ***Question for stakeholders: should PGE offer DCFC rebates for public charging as well? Under what conditions?***
Cost	$375,000	$2,000,000	$400,000

New Product: EV-Ready Funding for Affordable Housing

Challenge:

- New Oregon code requires 20% of parking stalls at new multifamily buildings to be "EV-ready" (electrical capacity and conduit laid), and some local governments hope to enact codes that go beyond that standard
- Affordable housing projects that are mid-stream (pre-construction, but have already secured financing) may have trouble finding the funds to meet this new requirement, putting the projects in jeopardy
- Since these projects do not plan to install EVSE today, no other utility rebates or programs are available

Opportunity:

- One-time, first-come first-served funding for affordable housing projects to meet state and local code and become EV-ready

Potential cost: $600,000

Municipal Charging Collaboration Program Concept

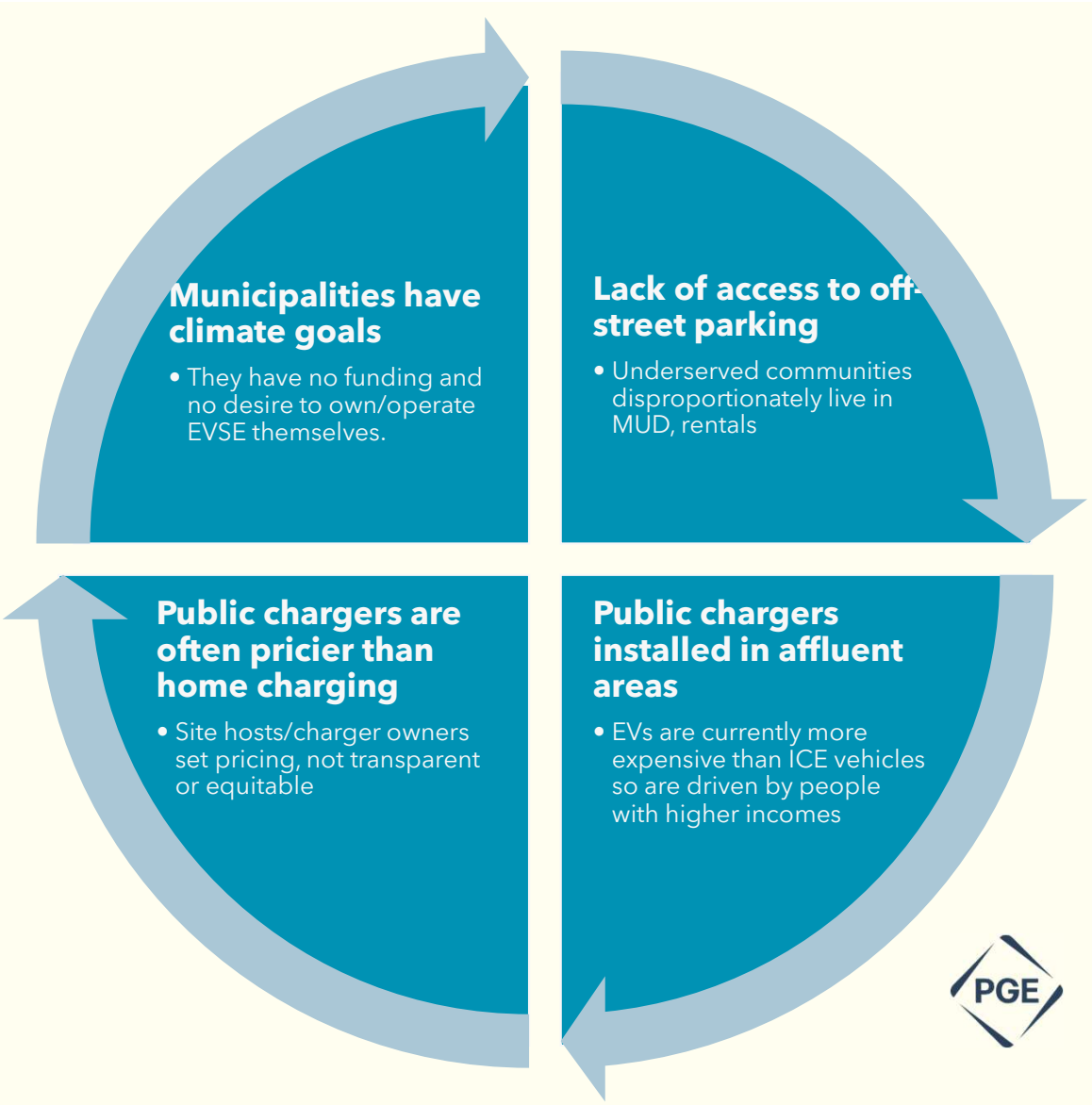
Agenda

- Customer Challenge
- Customer Needs
- Proposal
- Collaboration with Municipalities
- Cost estimates

Customer Challenge

Underserved communities are at risk of being left behind by the transition to electric vehicles, and they stand to benefit the most.

How do we meet the charging needs of underserved communities, who are disproportionately renters and Multi Unit Dwelling (MUD) residents?



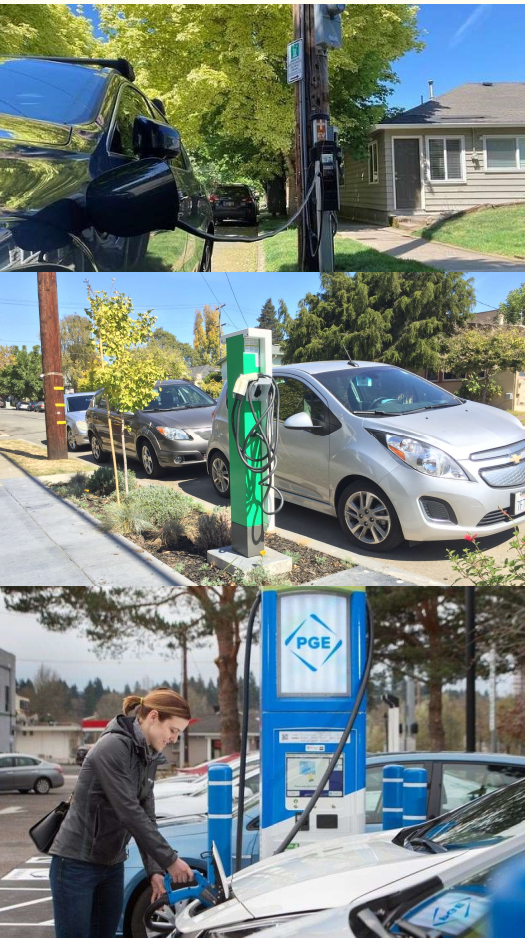
What Do Customers Need?

44% of respondents who rent multifamily units say they would be much more likely to consider an EV if they had access to public on-street charging.

52% of respondents who lack off-street parking at home say they would be much more likely to consider an EV if they had access to public on-street charging.

What Are Customers Saying?
(Pole Charging)

Proposal



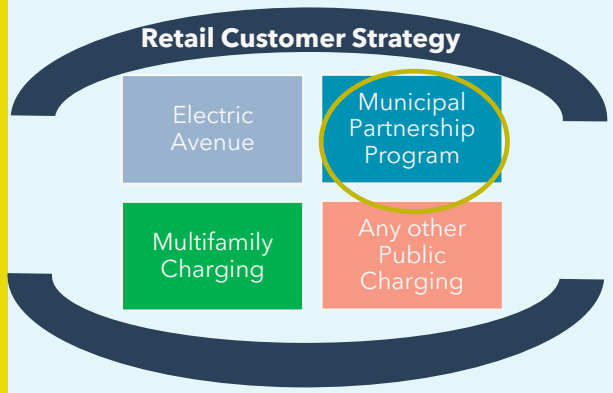
PGE will create a platform to collaborate with municipalities to design, build, own, operate & maintain chargers on public property

This program will look to install:

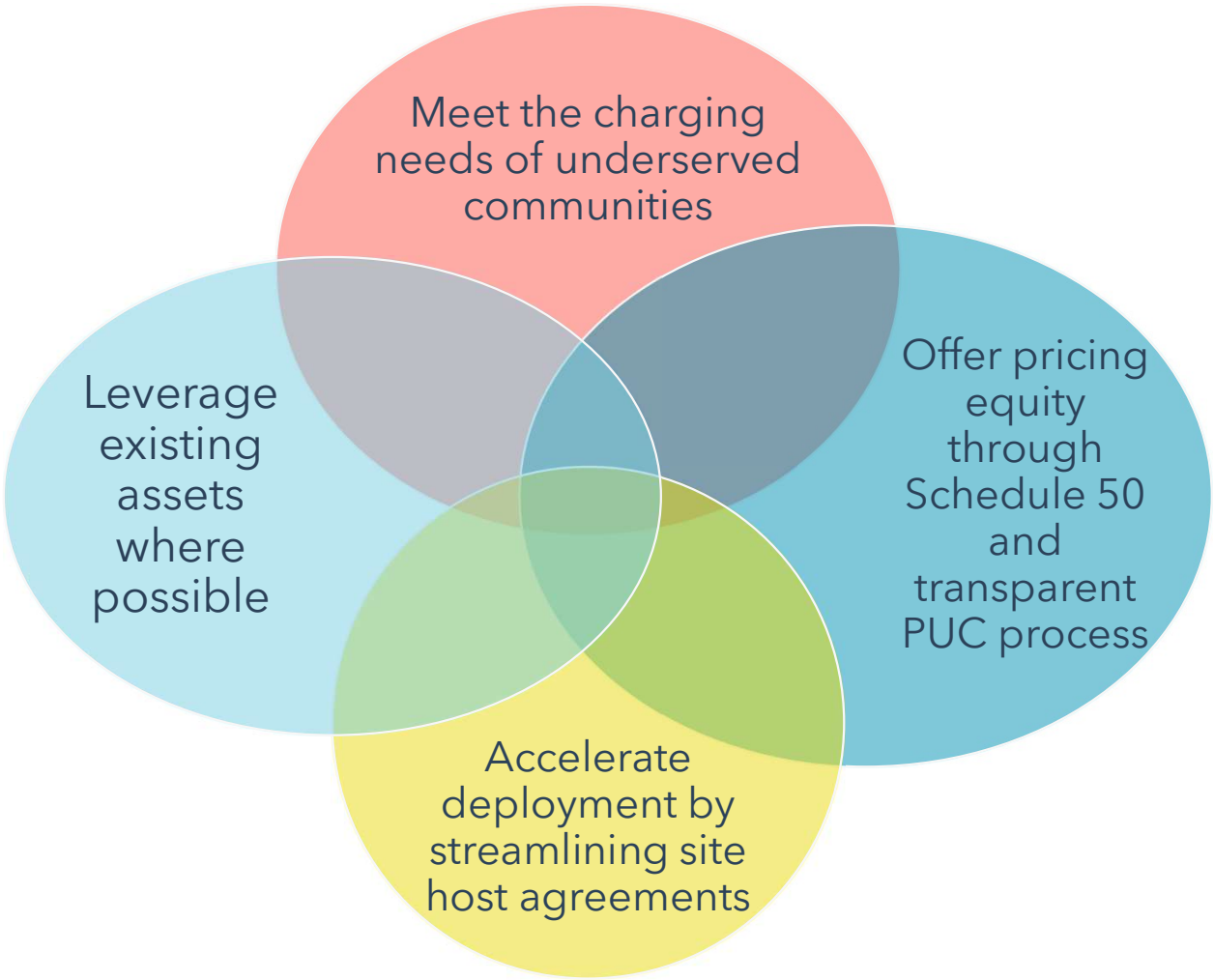
1. Utility Pole Mounted Chargers;
2. Curbside Charging; and
3. DCFC in public parking lots

PGE will prioritize utilization of existing assets in the ROW, prior to other installation methods

How does this relate to other TE Work?



This product will…



Collaborating with municipalities

This is a mechanism for municipalities to meet their climate action and TE goals

- Municipalities will enter into an agreement with PGE
- PGE will make mapping data available to municipality
- Municipalities will conduct public outreach/education for each neighborhood in which they seek to install chargers

Projected costs at estimated scale

Working on finalizing forecasted needs and platform estimates

Illustrative example of a scaled-up, platform approach and projected costs (2022-2025). 1-2+ years required for ramp up

Port Type	Share of TEINA Port need in PGE Service Area	TEINA port need estimate PGE Service Area by 2025*	Number of PGE Ports	Estimated average capital cost per port
Level 2	41%	4,923	2,000	$15,000
DCFC (150 kW)	13%	1,920	190	$200,000
DCFC (350 kW)			60	$400,000

Cost Type	2022-2025 Estimate
Total Capital	$92 MM
Estimated Admin and O&M	$9 MM
Total Estimate	$101 MM

PGE will design sites, own, operate and maintain chargers, collecting revenue from drivers on equitable and grid-friendly Schedule 50 rates.

* Per OPUC Staff's slides at AR 654 workshop, 3/16/22

Questions & discussion

Closing & Next Steps

Next steps

- Incorporate feedback from today's workshop
- Written informal comments welcome by May 6th
- Planning several rounds of robust stakeholder discussion to inform TE plan filing later this year

Thank you!

Contact information

- Regulatory - Steven Corson steven.corson@pgn.com
- Questions, comments, logistics – Jeremy Litow jeremy.litow@pgn.com

- Stay tuned, coming soon - join our mailing list and follow our TE Planning website!

Let's meet the future together.